Fun and Pleasure in e-learning

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Abstract

User types have already evolved in the digital world and expectations have gone beyond pure usability. Emotions have become important; users are conscious demanders of usable and engaging products, appealing, interesting and enjoyable experiences. Among various applications and impacts of the digital world, e-learning stands as an important area where user-product interaction is important since this interaction determines the quality of learning outcomes. The theory and practice of e-learning points out the importance of learner centered vision and presents key issues for successful learning. Technology usage, instructional design, motivation and learning management systems are listed as main issues, but the emotional perspective is left underestimated. This study aims to present the learners' definition and expectations of 'fun' and 'pleasure' in e-learning.

Conference theme: Usage and Interaction

Keywords: E-learning, fun, pleasure

Introduction

Rapid technological development, variety in user preferences and volatile marketing trends challenge designers in their attempts to provide solutions for existing problems for the mutual benefit of both the user and manufacturer. No matter from which trend or approach design emerges, the solution provided should be satisfactory for the end user. When designing for the digital world, this fact becomes even more powerful. The emotional impact of product appearance is an outstanding area of research for the digital world as well. The digital world has completed its introductory stage, user types have evolved and expectations have gone beyond pure usability issues. Emotions have become important; users are conscious demanders of usable and engaging products, appealing, interesting and enjoyable interfaces and tasks. Among various applications and impacts of the digital world, e-learning stands as an important area where user-product interaction is important since this interaction is important in determining the quality of learning outcomes.

E-learning is the delivery of instruction via computers, Internet or intranet and (1) includes content relevant to the learning objective, (2) uses instructional methods such as examples and practice, (3) uses media elements to deliver the content and methods and (4) builds new knowledge and skills linked to individual learning goals or to improved performance. (Clark and Mayer, 2003) These features listed are parallel with 'learning' theories but what makes e-learning unique is in the usage of media and medium (computer, CD or DVD, Internet or intranet) together with the integration of self-study process. (Clark and Mayer, 2003)

The self-study process in e-learning points out the importance of learner centered vision. Often, in literature, what is implied by the term 'learner-centered' is adjusting teaching and learning activities in ways that take account of individual needs. The learner makes choices about what to learn, how to learn, and how to be assessed. The delivery of instruction by focusing on interactivity, technology usage, instructional design, motivation and learning management systems become key issues when designing for learner centered e-learning. (Clark and Mayer, 2003)

While defining the importance of learner centered vision, emotional responses of learners during their interaction with the designed digital environment seem to be underestimated in the e-learning process.

Learner Centered Design and E-learning

State of the art practice and research on e-learning applications set out the core components of design as theories of education and learning, learners, medium and technological opportunities.

Learning and Learner Centered Vision

Theories of education and learning provide various perspectives such as behavioral, cognitive, constructive approaches and all appraise learner centered applications while designing e-learning environments. The shift from traditional ‘learning primarily from the educator's point of view’ to ‘understand the learner's reality’ has put the learner in the centre of the learning activity and has left the educator as ‘the guide on the side’.

Latest theories define learning as an active process, during which learners construct new ideas based on their current understanding and perspectives. They do this by selecting, then transforming information by organization, elaboration, scaffolding, and other cognitive strategies. The design must be learner-centric, not content centric. Designs of learning paths need to take into consideration the learners’ contexts and provide appropriate models and schemas. (Brown, 2005)

Further, learners must be given opportunities to assess their learning, to determine how they are doing so that they can make fresh choices about next steps. Learner centered courses recognize the context of the learner and situate learning tasks within practice, challenging learners by creating situations where they are required to take responsibility for their own learning and involving practice through demonstrating what has been learned for themselves and for others. Engaging the learners by mobilizing motivation and emotional engagement with the task is also suggested. E-learning is very good for learners who are motivated and understand how to get the best from learning material. The ideal e-learner is digitally literate, self sufficient, intuitive self-motivated and probably an ideal book learner. Those who are reluctant learners, need others help in motivation, need reassurance in learning and to whom computer represents an artificial way of communicating seem to be forced to the ‘one size fits all’ solution which e-learning seems to offer. (Hills, 2003)

Interactivity

Interactivity is also an important concept in e-learning. Although the term is mostly used alongside with computers and software, both the pedagogical and technological dimensions should be taken into account. Within the e-learning framework, four types of interactivity are identified; Listen-Read, Respond- Practice, Explore- Interpret and Create- Generate. Listen-Read being the lowest form of interactivity sees the learner as a passive participant in the learning process. Respond-Practice is a higher form of interactivity where there is limited participation on the part of the learner. Explore-Interpret type activities help the learner play a much more active role in the learning process by letting the learner to complete a task or solve a problem by making a selection form a variety of options. The learning path is dependent upon these selections and responses made by the learner and would vary based on the selections made. Create-Generate type is the highest level of interactivity where learners actively participate by brainstorming, debating, discussing and collaborating and sharing information via various communication channels provided on the web. (Valiathan, 2006)

Motivation

Motivation has been seen in e-Learning as a matter of design: proper instructional design and provision of suitable learning activities would engage all learners. There are three main research directions about motivation in e-Learning:

1) based on motivational planner (del Soldato & du Boulay, 1995),
2) based on Social Cognitive Learning Theory (SCT) (Bandura, 1986) and
3) based on ARCS model (Keller, 1987)

The motivational planner suggests first to detect the student's motivational state and then to react with the purpose of motivating distracted, less confident or discontented students, or sustaining the disposition of already motivated students. Three parameters are used to infer motivation: the learner's state of confidence, independence and the degree of effort spent in every task. (del Soldato & du Boulay, 1995)

Social Cognitive Learning Theory emphasizes the importance of self-efficacy and self-regulation in e-Learning. Self-efficacy refers to a person's belief about his/her capacity to perform a certain task at a certain level and self-regulation refers to the control of the learning activity. (Bandura, 1986)

The ARCS model is used as design principle in order to enhance the instructional process with motivation. The model outlines Attention, Relevance, Confidence and Satisfaction as four steps for promoting and sustaining motivation in the learning process. (Keller, 1987) Attention can be gained either by perceptual arousal using novel, surprising, incongruous, and uncertain events or by inquiry arousal where curiosity is stimulated by posing challenging questions or problems to be solved. An additional important component of attention is variability. No matter how interesting items are used, people will adapt to it and lose interest over time. Thus, it is important to vary ones approaches and introduce changes of pace. Using concrete language and examples with which the learners are familiar provide relevance and learners should believe that their success is a direct result of the amount of effort they have put forth describes the confidence issue. The last item, satisfaction is achieved when the learning process itself is presented as rewarding or satisfying in some way, whether it is from a sense of achievement, praise from a higher-up, or mere entertainment.

Technology and Learning Management Systems

E-learning encompasses a broad range of applications of technology and refers to using information and communications technology to support the process of learning, to support communication in educational settings, to evaluate learning activities, to manage resources, to create educational materials. Technology driven designs support the 'anytime, anywhere' motto of e-learning applications and rely on computer mediated communication where synchronous or asynchronous or both types of communication is provided. By web based learning management systems (LMS) the course content is administered and communication facilities such as email, discussions forums and virtual classrooms are provided.

There are situations where the designed online learning environment is not used as intended. The criticisms point out main issues on this mismatch as (1) the students exclusively studying the material in a linear fashion, even though they knew they could have accessed the material non-linearly, (2) the students asking for paper-based materials, even though they did not have any

technical problems and (3) the communication facilities being hardly used; the students preferring face-to-face contact with their tutors. (Beasley and Smyth, 2004) The criticism holds the learner responsible rather than questioning the actual reasons beyond the learners' demands and actions.

Emotional Responses of the Learner

By recognizing the importance of the users' needs, designers have started to analyze the experience the user establishes with the product. Product experience is defined as the affective response of an individual interacting with a product. (Demir, Desmet and Hekkert, 2006) This interaction involves all attributes of a product in terms of its physical, sensual, cognitive, emotional or aesthetic qualities. (Forlizzi and Battarbee, 2004)

Focusing on user needs and product experience puts forth the term 'appraisal'. The term was first used by Arnold where he stated "To arouse an emotion, the object must be appraised as affecting me in some way, affecting me personally as an individual with my particular experience and my particular aims". (Arnold, 1960)

Appraisals are *very* individual perceptions; different people may appraise the same situations differently, and even, the same person may appraise the same situation in a different way at a different time. Appraisals are important while defining 'pleasure in use'. The product must have a positive appeal to a person's desire of pleasure and avoid boredom and discomfort. The aspects that are fun, original, interesting, engaging, and cool lead to a positive subjective experience. (http://www.usabilityfirst.com/glossary/main.cgi?function=display_term&term_id=845)

Within the framework of e-learning applications, theories of education and learning prescribe perspectives and strategies for successful learning outcomes, interactivity serves the need for communication, motivation underlines the satisfaction of the learner from the learning process, technology provides many tools for instructional design and all these intersect at 'learner centered' vision. No matter how intense the learner centered vision is studied, there are hardly any references to the learners' emotional responses. The emotional state and appraisals of the learner are also important in the e-learning process. Underestimating these would leave the learner centered vision incomplete. E-learning specialists are bound to fall beyond the learners' expectations as long as they focus only on theories and technology rather than the 'human

factor' and all their attempts to create innovative solutions would be imperfect. Having this as a standpoint, a study was conducted to set forth learner expectations of 'fun' and 'pleasure' in e-learning.

The Study

This study aims to present the learners' definition and expectations of 'fun' and 'pleasure' in e-learning. A questionnaire distributed to 227 undergraduate students possessing e-learning experience in a state university asked participants' their own definitions for 'fun' and 'boring' in e-learning applications. The answers were coded according to key issues (interactivity, technology usage, instructional design, motivation and learning management systems) derived from literature survey on successful e-learning. A further study was made by inviting 10 volunteers to a face-to-face interview where they were asked to make their own priority lists for 'fun' and 'pleasure' definitions sorted from the common definitions of the previous questionnaire. If not provided in the definition list, participants were allowed to put in their own definitions as well. The questionnaire distributed to 227 undergraduate students asked two questions; (1) according to your experience, what makes an e-learning application boring and (2) according to your expectations, how can an e-learning application be more fun. The aim of these two simple questions was to receive free personal comments and definitions without limiting them with above mentioned key issues. The distribution of participants according to their departments and number of received responses are given in Table 1.

Department	Questionnaire distributed	Questionnaire replied
Computer Education and Instructional Technology	85	65
Industrial Design	39	21
Elementary Education	34	22
Foreign Language Education	69	30
TOTAL	227	138

Table 1: The distribution of participants according to their departments and number of received responses

As mentioned before, when designing for learner centered e-learning, the delivery of instruction focusing on interactivity, technology usage, instructional design, motivation and learning management systems are highlighted as key issues in literature. The personal comments and definitions received from participants of this questionnaire were coded according to these key issues. The distribution of keywords in responses is given in Table 2.

Key Issues	Keywords in responses	Fun	Boring	Total
Interactivity	synchronous communication, instant feedback, socializing	32	106	138
Technology usage	asynchronous communication, forum	23	6	29
Instructional Design	materials, animation, visual aid, game, text	131	7	138
Motivation	motivation	4	5	9
LMS	design, interface, usability, understandable	8	11	19
Other	Technical difficulties, connection speed, computer screen, health issues	4	16	20

Table 2. The distribution of definitions according to key issues

The distribution shows that the participants experienced in e-learning mostly associated the word ‘fun’ with instructional design, and ‘boring’ with tools and strategies supplied for interactivity. Presenting learners with various types of instructional materials which contain animations, visual aids, games, and easy to follow texts cohere with their expectations of fun whereas being forced to synchronous communication at a definite agenda makes them get bored. It is mostly stated that in cases where the grading is declared to be effected by such communication makes the situation even worse. As contrary to literature, the term ‘motivation’ was the least used word associated to ‘fun’ and ‘boring’ aspects of e-learning.

Assuming that written responses might fail to spot some definitions, an explorative study was made further by inviting 10 volunteers to an interview where they were asked to make their own priority lists for ‘fun’ and ‘pleasure’ in e-learning applications among given definitions. These definitions were sorted from the common responses of the previous questionnaire, presented as note cards and the participants were allowed to put in their own definitions (if not provided in

the definition list) as well. In order to make priority list, a computer screen with note cards were prepared as shown in Figure 1.

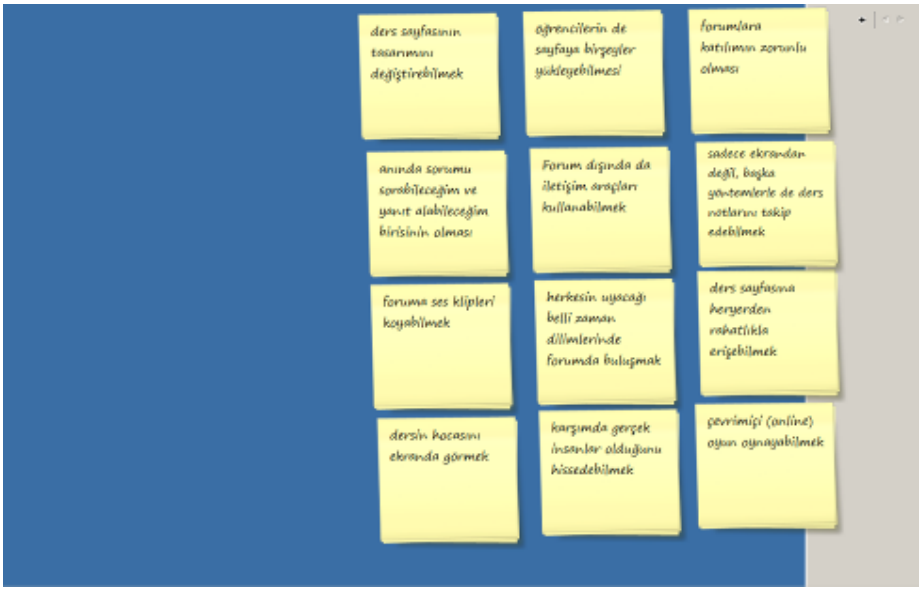

Figure 1: The face-to-face interview computer screen

The note cards contained the following definitions;

- Learners should be able to change the design of the course page
- Learners should be able to upload information to the course page
- Learners should be obliged to attend the forum
- There should be someone from whom the learners could get instant feedback
- Communication tools other than the forum application should be provided
- Other than the computer screen, there should be different ways provided for following the lecture notes
- Audio files should be available in forum applications
- Forum meetings on a specific agenda must be provided
- The course page should be accessible via all possible technologies
- The lecturer (instructor) should be visible on screen
- Learners should feel that there are ‘real’ people attending the course
- Learners should be able to play online games

These definitions were given without being numbered and the participants were asked to rank these cards by putting in numbers starting from 1, based on their priorities. The participants

were also allowed to put and list as many definitions as they need. One example list is given in Figure 2.

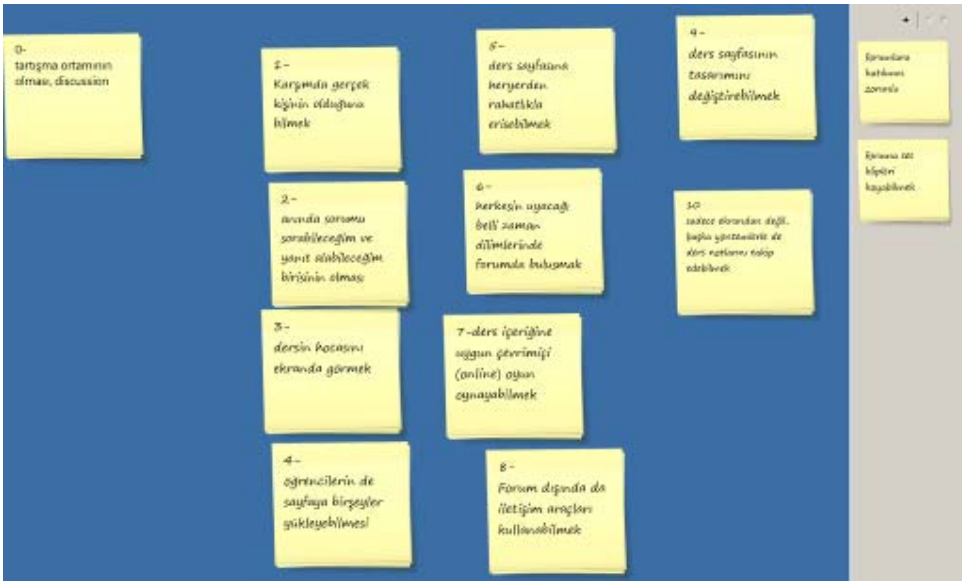

Figure 2. A face-to-face interview computer screen example

As can be seen in Figure 2, the participant numbered the note cards from 1 to 10, listed 11 definitions as priorities, adding his own; in this example: 0-‘there should be a discussion platform’. The unused cards remain on the right side.

The ranking distribution of each participant is shown in Table 3. These definitions sorted from the common definitions of the previous questionnaire and presented as note cards placed on the left and the corresponding issue is given on the right. The numbers indicate the number in the rank list; i.e. 5 means, that participant (P) ranked that definition as the fifth item in his/her priority list. For example, for Participant 1 (P1), among given definitions, the first item for his/her priority list for ‘fun’ and ‘pleasure’ in e-learning applications was ‘Other than the computer screen, there should be different ways provided for following the lecture notes’ followed by the item ‘Learners should feel that there are ‘real’ people attending the course’ and ‘There should be someone from whom the learners could get instant feedback’ stood as the third ranking.

The first three rankings, namely note cards numbered from 1 to 3 were highlighted to see if they are associated with the findings from the previous questionnaire. Additional definitions provided and their rankings are listed in Table 4.

Definition note cards	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	Key Issue
Learners should be able to change the design of the course page	10	5	7	8	8	5	7	7	7	8	Interactivity
Learners should be able to upload information to the course page	5	2	3		4	7	6	4	11	7	Instructional Design
Learners should be obliged to attend the forum		4			9	6			12	9	Instructional Design
There should be someone from whom the learners could get instant feedback	3	7	4	7	3	8	5	3	2	2	Interactivity
Communication tools other than the forum application should be provided	9	11	11	5	10	10	9		10	11	Technology and LMS
Other than the computer screen, there should be different ways provided for following the lecture notes	1	3	5		11	9	10	8	8	10	Technology and LMS
Audio files should be available in forum applications		8	10			13			9	14	Technology and LMS
Forum meetings on a specific agenda must be provided	7	6	6	6	5	3	4	6	5	6	Instructional Design
The course page should be accessible from all possible environments	6	12	9	4	12	11	1		4	12	Technology and LMS
The lecturer (instructor) should be visible on screen	4	1	2	1	2	1	2	2	3	3	Interactivity

Learners should feel that there are 'real' people attending the course	2	10	1	2	1	2	3	1	1	1	Interactivity
Learners should be able to play online games	8	9	8	3	6	12	8	5	10	13	Instructional Design

Table 3: The rankings of the face-to-face interview

Additional definitions provided	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**	**P7**	**P8**	**P9**	**P10**
Provisions for discussion	1									4
Having face-to-face class meetings occasionally					7	4			6	5

Table 4: Additional definitions provided and their ranking.

Discussion

Having the scarce reference to learner emotions in e-learning research as a standpoint, this study aimed to present the learners' definition and expectations of 'fun' and 'pleasure' in e-learning within the framework of e-learning and appraisal literature.

Although it is stated in literature that aspects that are fun, original, interesting, engaging, and cool lead to a positive subjective experience, when participants were asked to define 'fun' and 'boring' issues regarding e-learning, they associated 'fun' mostly with instructional design, and 'boring' with tools and strategies supplied for interactivity. In the face-to-face interview, the issue common to the first three rankings is again interactivity. The participants focus on interactivity when defining or suggesting strategies that would make e-learning 'fun' and 'pleasurable'. It could be stated that learner appraisals are not so high and the learners don't have a desire of pleasure in the sense of emotions. Because the context is learning, and because the learners project their already formed experiences from the real world to the digital world, 'fun' and 'pleasurable' issues may not yet be perceived as they are defined in appraisal literature.

Whereas the e-learning literature describes interactivity from the content side (presenting the content via Listen-Read, Respond- Practice, Explore- Interpret and Create- Generate strategies) learners expect the e-learning process to be interactive in the sense of 'reality'; they need to feel

that there are real people (both the instructors and other learners) around. This need is also seen in Table 4, where, among the two additional comments, 'Having face-to-face class meetings occasionally' was common in 4 participants. No matter how up to date technology and LMS are used, meeting in the real world and in a real context is an expectation for 'fun' and 'pleasure'. This supports the finding that within the context of e-learning, learners bring in their experiences and expectations from the real world and they intend to meet their trust and curiosity needs.

Provisions for content related online gaming is most referred in literature; for the participants of this study, although it was associated with 'fun' in the first questionnaire, when it came to ranking, it was not seen as a major priority regarding 'fun' and 'pleasure' in e-learning environments.

According to this study, technology and Learning Management Systems used in e-learning hardly are prior issues related to learners' 'fun' and 'pleasure' descriptions.

Conclusion

The findings of a study seeking learners' fun and pleasure expectations in e-learning environments illustrate important issues which are not commonly cited in literature; the learners associate fun and pleasure with 'reality'. Although the environment is set to be digital, they are still in need for instant feedback, they find *seeing* the instructors and peers directly and even they want to meet in the real world and in a real context. These are results of former experiences gained in traditional learning environments. In the design of e-learning applications, attempts to reach pre-defined objectives and ensure achievement in learning have to consider this alongside with theories, technology and instructional design. The learners are the only 'ones' which are unique and 'human' in the digital learning world and if learner centered vision really aims to put the learner at the center, the need for reality should not be underestimated.

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